Patent Claims

1. Method for monitoring an oil and gas lubricating device (1), with which an oil film, while forming striae, can be conveyed by an airflow along a wall of a supply line (4) to a lubrication point (2), comprising the following process steps:
   - detecting the temporal change in the striae (12) by a striae sensor (14);
   - generating a striae signal that is representative for the temporal change in the striae (12);

   characterised by the following process step:
   - Smoothening of the striae signal by calculating an average value of the striae signal over a predetermined averaging interval.

2. Method according to Claim 1, **characterised by** the following process steps:
   - comparing the smoothened striae signal with a predetermined operating limit, which is representative for an oil film that is sufficient for lubrication point lubrication appropriate for operation;
   - Outputting an operating signal if the smoothened striae signal exceeds the operating limit.

3. Method according to Claim 1 or 2, **characterised by** the following process step:
   - Outputting a warning signal if the smoothened striae signal falls below the operating limit.

4. Method according to one of the abovementioned Claims, **characterised by** the following process steps:
   - comparing the smoothened striae signal with a predetermined warning limit, which is representative for an oil film that is not sufficient for lubrication point lubrication appropriate for operation;
   - outputting the warning signal if the smoothened striae signal falls below the warning limit.

5. Method according to one of the abovementioned Claims, **characterised by** the following process step:
   - Reading out the operating and / or warning limit from a memory unit (30).

6. Method according to one of the abovementioned Claims, **characterised by** the following process steps:
   - specifying the operating and / or warning limit depending on a normalization signal;
   - specifying the smoothed striae signal as an operating and / or warning limit when the normalization signal is applied.

7. Method according to one of the abovementioned Claims, **characterised by** the following process step:
   - specifying the operating or warning limit as a percentage or absolute deviation of the respective other limit.

8. Method according to one of the abovementioned Claims, **characterised by** the following process steps:
   - Automatic shortening of the averaging interval when the warning signal is being output;
   - specifying a long time interval and a short time interval.

9. Method according to one of the aforementioned Claims, **characterised by** the following process step:
   - generating the striae signal representative of the temporal change in the striae (12) using opto-electronic means.

10. Method according to one of the aforementioned Claims, **characterised by** the following process steps:
    - measuring the temperature of the oil film;
    - Saving the temperature of the oil film when specifying the operating or warning limit;
    - Smoothening the striae signal depending on the difference in the temperatures of the saved and measured temperature of the oil film.

11. Method according to Claim 10, **characterised by** the following process step:

- Adding and subtracting temperature-dependent characteristic values to or from the striae signal during the smoothening.

12. Method according to one of the aforementioned Claims, **characterised by** the following process steps:
    - comparing the unsmoothened striae signal with a predetermined malfunction limit that is representative for a striae signal when there is a malfunction in the airflow, during the smoothening;
    - outputting the warning signal if the unsmoothened striae signal falls below the malfunction limit.

13. Method according to one of the aforementioned Claims, **characterised by** the following process step:
    - Preconditioning of the striae signal before the smoothening by calculating an average value of the unsmoothened striae signal over a predetermined time interval.

14. Method according to one of the aforementioned Claims, **characterised by** the following process step:
    - Preconditioning of the striae signal before the smoothening by removing the constant portion from the unsmoothened striae signal.

15. Method according to one of the aforementioned Claims, **characterised by** the following process step:
    - Preconditioning of the striae signal before the smoothening by rectifying the unsmoothened striae signal.

16. Method according to one of the aforementioned Claims, **characterised by** the following process step:
    - amplifying the striae signal, depending on the preconditioned striae signal, to a predetermined average raw signal value.

17. Method according to Claim 16, **characterised by** the following process step:

- compensating the amplification of the raw signal value by attenuating the preconditioned striae signal.

18. Method according to one of the aforementioned Claims, **characterised by** the following process steps:
    - detecting a beam of light directed through the striae;
    - generating the striae signal depending on the beam of light.

19. Method according to one of the aforementioned Claims, **characterised by** the following process step:
    - generating the beam of light (15) directed through the striae by means of a light source (13).

20. Method according to Claim 17, **characterised by** the following process step:
    - calibrating the striae signal by regulating the light intensity of the light source (15).

21. Method according to Claim 17, **characterised by** the following process step:
    - calibrating the striae signal by regulating the light intensity of the light source (15) to a predetermined test intensity.

22. Method according to one of the aforementioned Claims, **characterised by** the following process step:
    - Filtering the raw striae signal by a filter (20).

23. Monitoring device for an oil and gas lubricating device, wherein with the oil and gas lubricating device, an oil film, while forming striae, can be conveyed by an airflow along a wall of a supply line (4) to a lubrication point (2), and the monitoring device is provided with a striae sensor (14), with which the temporal change in the striae (12) can be detected and a striae signal can be generated that is representative of the temporal change in the striae (12), **characterised by** a smoothening unit (28), by means of which the striae signal can be smoothened and an average value of the striae signal over a predetermined averaging interval can be calculated.

24. Monitoring device according to Claim 23, **characterised in that** the monitoring device includes a memory unit (30), from which an alterably storable operating and / or warning limit can be read during operation.